Reestablishment of Radiochemistry Education in the United States

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Is Radiochemistry Important? It might have a few applications.

- Nuclear Energy (Reactor Chemistry)
- Nuclear Waste Management
- Environmental Remediation
- Space Reactors
- Nuclear Security (Nuclear Forensics)
- Production and Use of Radioisotopes
• Nuclear Energy and Nuclear Weapons programs brought in an emphasis on radiochemistry in the 1940’s and 50’s

• First educational program was developed in 1946 at the Oak Ridge School for Reactor Technology then distributed to universities around the United States

• Initial university programs were located at RPI, NC State, UC Berkeley, Arizona
Radiochemistry Ph.D. Degrees Conferred Declining through the Decades

<table>
<thead>
<tr>
<th>Decade</th>
<th>Estimated Count</th>
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<tbody>
<tr>
<td>1970’s</td>
<td>30-40</td>
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<tr>
<td>1980’s</td>
<td>20-30</td>
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<tr>
<td>1990’s</td>
<td>10-20</td>
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<tr>
<td>2000</td>
<td>3-10</td>
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<tr>
<td>2010-11</td>
<td>20-30 estimated</td>
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How did that happen?

– Radiochemistry Education Award Program (REAP) 1999-2008
  • Washington State University
  • University of Missouri
  • Clemson University
  • Colorado State University
  • University of Texas
  • Penn State University
  • Georgia Tech
  • UNLV
• REAP had only 300k in annual funding
• Today’s programs are much more extensive
  – DHS (DNDO): Fellowships, Education Awards, Junior Faculty, Undergraduate Research, MSI Awards (Nuclear Forensics)
  – NRC: Research Grants, Curriculum Development, Student support
  – DOE-NE: Research Grants and Student Support
Where do we need to go?
Many areas of emphasis are missing.
  DHS/DTRA/NNSA Nuclear Forensics
  NRC Nuclear Energy
  DOE-NE Nuclear Energy

Support will be needed from Environmental Management and Nuclear Medicine Programs